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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/220,462 | 12/23/1998 | CHRISTIAN G. TONNA | 4167-05 | 3469 |

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OTIS ELEVATOR COMPANY
INTELLECTUAL PROPERTY DEPARTMENT
10 FARM SPRINGS
FARMINGTON, CT 06032

| EXAMINER | |
|---|---|
| MCALLISTER, STEVEN B | |
| ART UNIT | PAPER NUMBER |
| 3627 | |

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/220,462 | Applicant(s) Tonna et al |
|---|---|---|
| | Examiner Steven McAllister | Art Unit 3627 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on *Mar 12, 2003*.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *16-21* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *16-21* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa (JP 402081888) in view of Aulanko et al (5,665,944).

Yoshikawa discloses a car, at least one elevator door 5 on a front face (see English abstract and Fig. 1) of an elevator car for movement between open and closed positions; first and second sheaves 12 on a part of the front face of the car comprising the vertical portion of the header 2 (see Fig. 2); a rope 13 forming a closed loop around the sheaves wherein the door is attached to the rope (see Fig. 1); and a drive motor 9a on the front portion of the car coupled to the elevator door. Yoshikawa does not show that the motor is integrated onto one of the sheaves. Aulanko et al shows a flat motor integrated onto a sheave (Fig. 1). It would have been obvious to one of ordinary skill in the art to modify the drive apparatus of Yoshikawa by adding a flat motor integrated onto one of the sheaves as shown in Aulanko et al in order to save space, to simplify the drive system, and to avoid the failure mode of having one of the drive belts 9d fail.

As to claim 21, Yoshikawa shows that the rope defines upper and lower portions each extending between the first and second sheaves; a second door 6 attached to the rope where door 6 is attached to the lower portion of the rope and door 5 is attached to the upper portion of the rope to move the doors in opposite directions (see Fig. 1 for rope configuration).

3. Claims 16, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu (JP 4-06329375) in view of Aulanko et al.

Yoshinobu shows an elevator car 1 with a front face (see Fig. 6); first and second elevator doors 5, 6 coupled to the front face of the elevator car; first and second sheaves 8, 9 mounted on the front face of the elevator car (see Fig. 6) with a closed loop rope in between (see Fig. 6) the sheaves and attached to the doors; a drive motor 13 on a front portion of the car driving one of the sheaves via a pulley (see Fig. 6). Yoshinobu does not show a flat motor integrated onto a sheave. Aulanko et al show a flat motor integrated onto a sheave. It would have been obvious to one of ordinary skill in the art to modify the apparatus of Yoshinobu by replacing the pulley driven reduction system of Yoshinobu with the flat motor integrated onto a sheave as taught by Aulanko et al in order to save space and eliminate the failure mode of the pulley 15.

As to claim 17, since the sheaves 8, 9 of Yoshinobu are mounted on the front face of the elevator ca between the upper and lower edges of the car (see Fig. 6), and since the flat motor is integrated onto the sheave as taught by Aulanko et al, Yoshinobu in view of Aulanko et al inherently disclose that the flat motor is mounted on the front face of the elevator car.

As to claim 21, Yoshinobu shows that the rope defines upper and lower portions each extending between the first and second sheaves; a second door 6 attached to the rope where door 6 is attached to the lower portion of the rope and door 5 is attached to the upper portion of the rope to move the doors in opposite directions (see Fig. 6 for rope configuration).

4. Claims 18-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshinobu in view of Aulanko et al as applied to claims 16 and 17 above, and further in view of Tracey (5,701,973).

Yoshinobu in view of Aulanko et al show the drive apparatus (sheaves 8, 9 , integrated flat drive motor, etc.) mounted between the upper and lower edges of the elevator car (Fig. 6 of Yoshinobu with the motor integrated onto the sheave). They show an elevator door hangar in front of the car (see Fig. 6 of Yoshinobu) and the flat drive motor in front of the car. They show a door hangar (11, 12 of Yoshinobu) disposed forward of the drive motor since the hangars are disposed in front of the drive rope (see Fig. 6 of Yoshinobu) and the rope is in front of the motor. Yoshinobu does explicitly show a header to mount the drive components. Tracey shows a header mounted between the top of the car and the top of the door opening (see Figs. 1 and 2 of Tracey). It would have been obvious to one of ordinary skill in the art to further modify the apparatus of Yoshinobu by adding the header bracket of Tracey in order to allow modular construction of the drive system so that an entire drive unit and header could be changed out while troubleshooting takes place.

As to claim 19, Yoshinobu as modified by Aulanko et al and Tracey show that the header is disposed below the upper edge of the car and above the door opening (see Fig. 6 of Yoshinobu and Fig. 2 of Tracey) and extends between the first and second sides of the car and that the drive is mounted on the header bracket.

As to claim 20,Yoshinobu as modified by Aulanko et al and Tracey show that the flat drive motor is mounted generally adjacent the first side of the car since the sheave is generally adjacent to the first side of the car (Fig. 6 of Yoshinobu) and the flat motor is integrated onto the sheave.

***Response to Arguments***

5. Applicant's arguments filed 10/7/02 have been fully considered but they are not persuasive.

As to the 103 rejection of claims 16 and 21, the applicant argues that the combination of Yoshikawa in view of Aulanko et al is improper. First, the applicant argues that the combination does not teach a motor located on the front face of the car. However, it is noted that the this feature is claimed only in dependent claims 17-20. While claims 16 and 21 recite sheaves on the face of the car, no motor on the front face of the car is claimed. Regarding the placement of the sheaves, as described in the rejection, they (as well as the motor integrated into one of them) are mounted on a part of the front face comprising a vertical face of the header as shown in Fig. 2.

Granted, if the face were to be described as substantially continuous the combination would fail, but no such limitation exists. Next, the applicant argues that there is no motivation to combine the references. It is noted that a motivation was given for each combination as can be seen in the rejection above. It is argued that Aulanko et al do not contemplate substituting a flat motor integrated into a sheave for a drive system with a separate transmission system (in the case of Yoshikawa comprising a standard motor and a belt). However, Aulanko et al discuss the substitution of such a drive for a standard drive with separate transmission (see for instance col., lines 10-15; col. 1, lines 61-65). It is further noted that it contemplates placing the system in place of a sheave or pulley (e.g., col. 2, lines 44-46).

As to the 103 rejection of claims 16, 17 and 21, the applicant argues that the combination of Yoshinobu in view of Aulanko et al is improper. First, the applicant argues that the combination does not teach a motor located on the front face of the car. Regarding the placement of the sheaves, as described in the rejection, they are mounted on a part of the front face as shown in Fig. 2. As combined with Aulanko et al, the flat motor is integrated into one of the sheaves (see Fig. 7) and mounted onto the front face as a part of the sheave. Next, the applicant argues that there is no motivation to combine the references. It is noted that a motivation was given for each combination as can be seen in the rejection above. It is argued that Aulanko et al do not contemplate substituting a flat motor integrated into a sheave for a drive system with a separate transmission system (in the case of Yoshinobu comprising a standard motor and a belt or chain). However, Aulanko et al discuss the substitution of such a drive for a standard drive with

separate transmission (see for instance col., lines 10-15; col. 1, lines 61-65). It is further noted that it contemplates placing the system in place of a sheave or pulley (e.g., col. 2, lines 44-46).

Regarding the applicant's arguments against the 103 rejection of claims 18-20 by Yoshinobu in view of Aulanko et al and Tracey, the applicant's rest their arguments upon the contention that Yoshinobu and Aulanko et al cannot be properly combined, as discussed above.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven B. McAllister whose telephone number is (703) 308-7052.

Steven B. McAllister

March 26, 2003